(CG–ENG), for use in the contiguous hull structure.

TABLE 1—MINIMUM TEMPERATURE, THICKNESS, AND STEEL GRADES IN CONTIGUOUS HULL STRUCTURES

| Minimum temperature | Steel thickness | Steel [1] grade |
|---|---|---|
| 0 °C (32 °F) ..... | All ..... | Standards of the American Bureau of Shipping published in "Rules for Building and Classing Steel Vessels", 1981 |
| −10 °C (14 °F) ... | T≤112.5 mm (½ in.) ... | B |
| | 12.5<t≤25.5 mm (1 in.) | D |
| | >25.5 mm (1 in.) ..... | E |
| −25 °C (−13 °F) | t≤112.5 mm (½ in.) .... | D |
| | >12.5 mm (½ in.) ..... | E |

[1] Steel grade of the American Bureau of Shipping published in "Rules for Building and Classing Steel Vessels", 1981.

[CGD 74–289, 44 FR 26009, May 3, 1979, as amended by CGD 82–063b, 48 FR 4782, Feb. 3, 1983; CGD 77–069, 52 FR 31630, Aug. 21, 1987]

### § 154.174 Transverse contiguous hull structure.

(a) The transverse contiguous hull structure of a vessel having cargo containment systems without secondary barriers must meet the standards of the American Bureau of Shipping published in ''Rules for Building and Classing Steel Vessels'', 1981.

(b) The transverse contiguous hull structure of a vessel having cargo containment systems with secondary barriers must be designed for a temperature that is:

(1) Colder than the calculated temperature of this hull structure when:

(i) The temperature of the secondary barrier is the design temperature, and

(ii) The ambient cold condition under §154.176(b)(1)(ii) and (iii) are assumed; or

(2) Maintained by the heating system under §154.178.

[CGD 74–289, 44 FR 26009, May 3, 1979, as amended by CGD 77–069, 52 FR 31630, Aug. 21, 1987]

### § 154.176 Longitudinal contiguous hull structure.

(a) The longitudinal contiguous hull structure of a vessel having cargo containment systems without secondary barriers must meet the standards of the American Bureau of Shipping published in ''Rules for Building and Classing Steel Vessels'', 1981.

(b) The longitudinal contiguous hull structure of a vessel having cargo containment systems with secondary barriers must be designed for a temperature that is:

(1) Colder than the calculated temperature of this hull structure when:

(i) The temperature of the secondary barrier is the design temperature; and

(ii) For any waters in the world except Alaskan waters, the ambient cold condition of:

(A) Five knots air at −18 °C (0 °F); and

(B) Still sea water at 0 °C (32 °F); or

(iii) For Alaskan waters the ambient cold condition of:

(A) Five knots air at −29 °C (−20 °F); and

(B) Still sea water at −2 °C (28 °F); or

(2) Maintained by the heating system under §154.178, if, without heat, the contiguous hull structure is designed for a temperature that is colder than the calculated temperature of the hull structure assuming the:

(i) Temperature of the secondary barrier is the design temperature; and

(ii) Ambient cold conditions of still air at 5 °C (41 °F) and still sea water at 0 °C (32 °F).

[CGD 74–289, 44 FR 26009, May 3, 1979, as amended by CGD 77–069, 52 FR 31630, Aug. 21, 1987]

### § 154.178 Contiguous hull structure: Heating system.

The heating system for transverse and longitudinal contiguous hull structure must:

(a) Be shown by a heat load calculation to have the heating capacity to meet §154.174(b)(2) or §154.176(b)(2);

(b) Have stand-by heating to provide 100% of the required heat load and distribution determined under paragraph (a); and

(c) Meet Parts 52, 53, and 54 of this chapter.

### § 154.180 Contiguous hull structure: Welding procedure.

Welding procedure tests for contiguous hull structure designed for a temperature colder than −18 °C (0 °F) must